

# Space News Roundup

## Strategy spawns New Initiatives Office

### Huffstetler leads new office

Bill Huffstetler will lead a team of 20-year-plus NASA veterans in managing the New Initiatives Office just established by JSC Director Aaron Cohen.

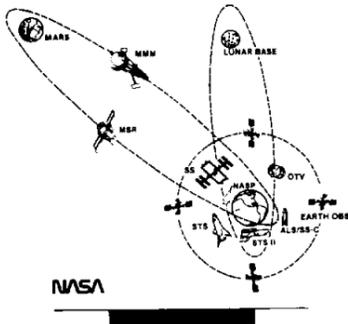
The New Initiatives Office (Code IA) will serve as JSC's focal point for new project development and as liaison with Headquarters, other agencies and private industry for future project development and activity, Cohen said.

"The exploration and exploitation of space by American astronauts will force us to develop new solutions to old problems and create new technologies to meet new

challenges," Cohen said. "The New Initiatives Office will focus JSC's activities in that area and help translate ideas into full-scale approved projects."

Huffstetler, who joined NASA in 1962 and most recently was assistant director of engineering, said the office is being formed in direct response to 1987 Strategic Planning activities that identified JSC's three primary goals as the Space Shuttle, the Space Station and development of technologies needed to achieve future space program objectives. The new office will use JSC's exist-

(Continued on page 2)



### JSC game plan in motion

JSC organizations are moving aggressively to implement the center's Strategic Game Plan after an all-day session to review draft plans.

Senior staff members and the newly formed Strategy Implementation Working Group met Jan. 28 to consider each organization's progress in developing its own implementation plan.

A senior staff strategy team made up of JSC Deputy Director P.J. Weitz, Mission Support Director Ron Berry, Mission Operations Director Gene Kranz, Space and Life Sciences Director Carolyn Huntoon and Engineering Director

Henry Pohl will coordinate the overall implementation effort.

The 16-member implementation working group will support the senior staff strategy team by assessing organizational implementation plans, recommending ways of resolving any conflicts and integrating issues that may be solved by centerwide activity.

In the meantime, JSC Director Aaron Cohen has directed the organizations to begin implementing their individual plans.

"We're getting down to the nuts and bolts work of strategic plan-

(Continued on page 2)



Robert Gilruth, retired director of the Manned Spacecraft Center, discusses space program policy with JSC Director Aaron Cohen during a recent visit.

### Gilruth visits old stamping ground

Robert Gilruth is the voice of experience when it comes to Johnson Space Center and manned space flight.

So, when Aaron Cohen invites the man who built the Manned Spacecraft Center and served as its first director to visit, you can be sure the conversation isn't confined to pleasantries.

"I'll be glad when they get the Shuttle going again," Gilruth said during a Jan. 27 visit. "I'm ill at ease when it's hung up and on the ground for so long. But I'm sure it's going to make many good flights in the future. And it'll be nice when we get that Space Station up there."

The 74-year-old said he stays healthy by sailing his 52-foot multihull boat—built and launched at Dickinson Bayou—around Chesapeake Bay in the

summer. He said he lives on the bay, belongs to a yacht club and often makes cruises with several other boats. He also stays active playing tennis.

"I come down and talk to Aaron Cohen every once in a while when he wants to talk to me about things at the center and space," Gilruth said. "We've been old friends for many years. There are problems in today's programs and when he feels it might be helpful, I come up and spend a few hours with him."

Gilruth, who was director of the Manned Spacecraft Center from 1961 to 1972, said every visit here brings to mind many memories and many old friends.

"There was nothing but a farm road out there, no houses," he said, looking down on the residential

(Continued on page 2)

## Shaw to command STS-28 crew on military mission

Brewster H. Shaw, Jr., will be commander of a five-man crew aboard Columbia for STS-28, a Department of Defense Space Shuttle mission now targeted for late 1988.

Joining Shaw, an Air Force colonel, on the flight as pilot will be Navy Cdr. Richard Richards. Mission specialists will be Navy Cdr. David Leestma, Army Lt. Col. James C. Adamson, and Marine Corps Maj. Mark N. Brown.

Shaw recently was head of the Orbiter return-to-flight team responsible for implementing safety modifications to the Orbiter fleet. An astronaut since 1978, he flew as pilot on STS-9 and as commander of STS-61B. He was a member of the support crew and entry CAPCOM for STS-3 and STS-4. Shaw also served as a staff member for the Rogers Commission investigating the STS 51-L Challenger accident.

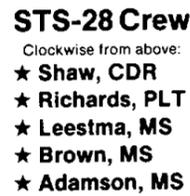
Shaw entered the Air Force in 1969 after completing Officer Training School and attended

undergraduate pilot training at Craig Air Force Base, Ala. He has undergraduate pilot training at Craig Air Force Base, Ala. He has logged more than 5,000 hours flying time in more than 30 types of aircraft including 644 hours of combat in F-100 and F-4 aircraft.

Richards, an astronaut since 1980, will be making his first shuttle flight on STS-28. He was commissioned in the U.S. Navy upon graduating from the University of Missouri in 1969 and was designated a Naval Aviator in August of the following year. His flight experience has included more than 3,200 hours in 15 different types of airplanes. He has also made more than 400 carrier landings during his career.

Leestma, an astronaut since 1980, flew as a mission specialist on STS 41-G, which was launched in October 1984. He graduated first in his class from the U.S. Naval Academy in 1971. As a first lieutenant afloat, he was assigned to the USS Hepburn

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**STS-28 Crew**  
Clockwise from above:  
★ Shaw, CDR  
★ Richards, PLT  
★ Leestma, MS  
★ Brown, MS  
★ Adamson, MS

## Space Station chief Stofan to retire in April

Andrew J. Stofan, associate administrator for Space Station, will retire from NASA on April 1. Stofan, 53, had been in charge of developing a permanently manned Space Station since June 1986.

During Stofan's tenure, the Space Station office was reorganized and the program office was established in Reston, Va. Eight major contracts were awarded, including those for Space Station design and development, technical and engineering support to the program office, software support environment, technical and management information

system and preliminary definition and design of the flight telerobotic servicer.

Stofan directed the program through a major cost review that culminated in an administration-approved plan to develop the Space Station in two phases, and through a major technical and cost review by a National Research Council committee that validated the baseline configuration. Significant progress was made on technical and programmatic agreements between NASA and the international partners for the development, use and

operations of the Space Station.

"The Space Station has made a tremendous amount of progress in the last year and a half, and I give Andy and his team a lot of the credit for getting this program through some very tough times," said NASA Administrator Dr. James C. Fletcher. "Andy has had a brilliant career with NASA and we are sorry to see him retire. NASA and this country owe Andy a debt of gratitude for his years of dedicated work to the nation's civil space program, and we wish him the best."

Stofan said he took the job as associate administrator for Space Station with the idea of accomplishing a set of objectives.

"I've accomplished everything I set out to do when I came here," Stofan said. "We have the NASA management team in place, the development and support contractors are on board, the international negotiations are in their final stages and the President has submitted a \$1 billion budget for the next fiscal year which will permit the program to move into full development. The program is on track now and it's an

appropriate time to retire from government."

Stofan's career with NASA spans nearly 30 years. He began his professional career at the Lewis Research Center in Cleveland in 1958 as a research engineer. From 1966 to 1978, Stofan managed a variety of technical projects at Lewis.

In 1978, Stofan was appointed deputy associate administrator for the Office of Space Science and later acting associate administrator. In 1982, he was appointed director of the Lewis Research Center.

## People

### Chaffee Engineer of Year nominee

Norm Chaffee, deputy chief of the JSC's Propulsion and Power Division, is one of NASA's two nominees in the ninth annual Federal Engineer of the Year awards program. Winners of the main award will be announced Feb. 17. All remaining nominees will receive honorable mention and a plaque as their agency's Engineers of the Year. Chaffee, who has received many NASA awards and participates in numerous civic and humanitarian activities, was nominated for being a "main force" in development of the Space Shuttle's Main Propulsion System, Orbital Maneuvering Propulsion System, Reaction Control Propulsion System, Cryogenic Fuel Cell System and the Auxiliary Power Unit and Hydraulic System. Also nominated was Donald Nored of Lewis Research Center.



Chaffee

### Ross honored for secretarial excellence

Juanita Ross, secretary for the Crew Systems Branch of Engineering's Crew and Thermal Systems Division, has received the Marilyn J. Bocking Secretarial Excellence Award. Ross, who provides secretarial support for 15 engineers, received a plaque and \$500 in recognition of her services. The branch workload during the past year involved many advanced space suit and life support procurements that required extensive statements of work. Her mastery of the word processing system permitted her to successfully meet all procurement schedules.



Ross

## Bulletin Board

### Tickets available for Houston rodeo

The '88 Houston Livestock Show and Rodeo is scheduled for Feb. 20 to March 6. Beginning Feb. 16, up to six tickets per NASA-badged employee will be available in the Bldg. 11 exchange store. NASA tickets are available for performances by Alabama, Feb. 21; Randy Travis, Feb. 25; Conway Twitty and Lorreta Lynn, Feb. 26; Anne Murray, Feb. 27; Kenny Rogers, Feb. 28, and Reba McIntyre, March 4. For concert time and ticket cost information call, x35350.

### NASA Night at Delta Downs is March 19

The JSC Employee Activities Association will sponsor NASA night at Delta Downs on Saturday, March 19. Tickets go on sale Feb. 16 and are limited to six tickets per purchase. A \$13 package departs JSC at 4 p.m. Saturday, returns at 2:30 a.m. Sunday and includes transportation and reserved clubhouse seating. A \$48 package departs at 1 p.m. Saturday, returns at 2:30 p.m. Sunday and adds a champagne welcome reception, hotel accommodations and Sunday brunch. No one under 18 admitted. For more information, call x35350.

### Commodore User's Group to meet Feb. 25

NASACOMM, a Commodore User's Group, will hold its next meeting on Thursday, Feb. 25 at 7:30 p.m. in the Harris County Park Bldg., 5001 Nasa Rd. 1. Anyone with an interest in Commodore computers is invited. For more information, call Bill Moore at 335-6251 or x53462.

### JSC Night at the Summit is Feb. 27

The next JSC-EAA Night at the Summit will be Feb. 28, when the Houston Rockets will take on the San Antonio Spurs. Tickets will go on sale for \$7 each at the Bldg. 3 cafeteria from 10 a.m. to 2 p.m. Feb. 23. Purchase is limited to eight tickets per person and a NASA-issued badge is required.

### March meeting of NARFE nears

The National Association of Retired Federal Employees (NARFE) will have a dinner meeting on March 1 at 6 p.m. at the Harris County Park Bldg., 5001 Nasa Road 1. Archeologist Alan Duke will discuss Archeology of the Upper Texas Coast including the NASA area. All federal retirees and those planning retirement are invited. For further information, call J.B. Fox at 333-4460 or Burney Goodwin, 326-2494.

### Military Officers Wives Club to meet Feb. 16

The next Bay Area Military Officers Wives Club will meet on Tuesday, Feb. 16, at 11:00 a.m. in the Gilruth Center. Wives of active duty and retired military are welcome. Since lunch is served reservations must be made in order to attend. For more information or for reservations call Lucy Saum, 996-9340.

### EAA to feature "Aristocats" on Feb. 27

The EAA will feature the children's movie "Aristocats" at 2 p.m. Saturday, Feb. 27 in the Gilruth Recreation Center. Tickets are \$1 for adults and children, refreshments included. Tickets may be purchased at the Bldg. 11 exchange store. For information call Susan Starkweather, x36608.

### National Management Association to meet Feb. 24

The next meeting of the JSC Chapter of the National Management Association is Wednesday, Feb. 24 in the Gilruth Center. The social hour begins at 5 p.m., followed by dinner at 6 p.m. The speaker will be John Getter, space reporter for KHOU-TV, Channel 11. For membership information or reservations, call Gerry Chapman, x34848. The cost is \$7 for nonmembers and reservations must be made by Feb. 17.

## Gilruth Center News

Call x30304 for more information

**EAA badges**—Dependents and spouses may apply for photo I.D. badges between 6:30 and 8:30 p.m. Feb. 16, 22 or March 1.

**Defensive driving**—Course is offered March 26 from 8 a.m. to 5 p.m. and costs \$20.

**Weight safety**—Required course for employees wishing to use the Rec Center weight room will be Feb. 25. Cost is \$4.

**Physical Fitness**—The next 12-week course of the JSC Physical Fitness Program will be from 11 a.m. to noon or from 4 to 5 p.m. April 4 to June 24. All NASA and contractor employees and dependents are eligible upon completion of an acceptable physical exam and a maximal treadmill stress test. For more information, call x30301.

**Aerobics**—Low-impact aerobics classes begin Feb. 16 and will meet every Tuesday and Thursday for 8 weeks from 5:15 to 6:15 p.m. Cost is \$24.

## New Initiatives Office drafts veterans

(Continued from page 1)

ing expertise to focus efforts that previously were dispersed throughout the center, he said.

"This is going to be our version of the 'skunk works,'" Huffstetler said.

An enthusiastic core staff has been identified and will be housed off-site in the Vanguard Bldg. A small group of about 90 people initially will comprise the new office, including about 65 civil servants, some contractor management support and detailees from other organizations, he said. Key personnel assignments include:

Jerry Craig, deputy manager of the Space Station Projects Office, will become manager of the Crew Emergency Return Vehicle Office (Code IA131).

William Milligan Jr., deputy manager of the Flight Projects Office, will become manager of the Advanced Projects Definition Office (Code IB).

Harry Erwin Jr., manager of the Flight Projects Office, will become manager of the Technology and Commercial Projects Office (Code IC).

Curtis LeBlanc, manager of the Project Implementation Office, has a new assignment as manager of the Flight Projects Office (Code ID).

Mark Craig, special assistant to the Engineering director, will become manager of the Lunar and Mars Exploration Office (Code IZ).

Assignments of Senior Executive Service members Huffstetler and

Jerry Craig will be on an acting basis until approved by Headquarters.

"The directorates will provide all the science, engineering and operations support," Huffstetler explained. "We will not build up that capability internal to this organization; we will develop project and technology tasks in direct support of center and directorate goals."

NASA Director James C. Fletcher approved establishment of the New Initiatives Office when he signed off on JSC's new organizational structure in September 1987. The new JSC office will respond to Headquarters requests for studies and analyses. Regular contact is expected with the Office of Aeronautics and Space Technology, the Office of Space Science and Applications, the Advanced Programs area of the Office of Space Flight, advanced development activities in the Office of Space Station and the Office of Commercial Programs.

"We'll be dealing with almost all the codes that sponsor technologies and new missions," Huffstetler said. "Our major interface, of course, is with Code Z, the Exploration Office in Washington. Right now we have a job to do on lunar base and a humans to Mars mission, developing scenarios from which we will define requirements and cost estimates."

Mark Craig said an important facet of the new office will be the progressive nature of its operations. The new Lunar and Mars Explora-

tion Office, for instance, will work with Code Z in Washington to define the country's space program "end-to-end." That high-level activity will be strategic, he said, and will identify concepts that need further development. The Advanced Projects Definition Office then will undertake more specific studies and identify needed technologies. Then the Technology and Commercial Projects Office will handle technology development. The Flight Projects Office will be our institutional customer interface with STS integration and eventually Station payloads office. The major projects' concepts eventually should become Project Offices in their own right with potential stand-alone capability, he said.

"That makes this organization dynamic in terms of the people in it," Craig said. "It will create a flow of people through this organization, which we think is healthy."

Craig said the Mars Rover Sample Return area already is in detailed study, and will be one of the first candidates for full project status when the mission has matured sufficiently.

One of the office's primary purposes will be to promote hands-on experience and project management training among civil service workers so that when studies break off into new projects, new NASA managers will have a broader technical and programmatic understanding of how the projects developed, Huffstetler said.

## Strategic Game Plan action begins

(Continued from page 1)

ning," said Cohen, who approved the Strategic Game Plan in October. "All of the organizations have made a good start at defining exactly what they are going to do to meet the goals and objectives set out in the green book."

Cohen said he was pleased with the quality of work each organization had put into its draft implementation plan. The drafts showed that serious thought and the creative energy of many JSC employees are being applied to important challenges the overall game plan has identified, he said.

"It's really impressive to see how everybody's come together," said Bill Huffstetler, a member of the Strategy Implementation Working Group.

"It's especially impressive when you see the senior staff really getting in there hands-on, digging and clawing," he added. "Everybody has bought into the Strategic Plan

and recognized that to make it any good we've got to figure out how we're going to implement it. The quality of the work, even with just this first meeting, was amazingly high compared to the first meeting or two we had on the Strategic Plan itself."

Huffstetler said each directorate is using different methods to achieve its goals, but that he is convinced the implementation plans can be completed within the next few months.

"The implementation plans represent actions and commitments on the part of the directorates and the project offices," he said.

Other members of the Strategy Implementation Working Group are Harvey Hartman, Human Resources Office; Don Robbins, Space and Life Sciences Directorate; Gene Easley and Wayne Draper, Administration Directorate; John McNeely, Mission Support Directorate; James Smotherman, NSTS Program

Office; Tony Redding, Space Station Projects Office; Denny Holt and Wayne Hayle, Mission Operations Directorate; Norm Chaffee, Ben Holder and Kyle Fairchild, Engineering Directorate; William Bates, Safety, Reliability and Quality Assurance Directorate; Bob Battey and Ray Hischke, Orbiter and GFE Projects Office; and Les Sullivan, Management Analysis Office.

According to Sullivan, one of the major implementation strategies will involve integrating individual career planning with JSC technology development and application efforts.

He said as the draft implementation plans are complete, employees will have an opportunity to examine them and assess where they fit within the plans.

A Feb. 26 meeting has been scheduled to brief major JSC contractors on the implementation plans and enlist their support.

## Gilruth sees Space Station as next step

(Continued from page 1)

areas across NASA Road 1. "This was a great big field with hay on it and a few cows.

"I remember when we went down and saw the water; we had been told we could bring heavy equipment in by water and we went down and the water was two feet deep," he said, chuckling. "It turned out to be a wonderful place for the center. The problem was, what was it going to look like when we put it all together? I had a pretty good look into the future, a pretty good

imagination, and it was the right thing to do."

The Space Industries, Inc., board member said, he also spends a lot of time with Max Faget when in the Houston area. He said he doesn't believe there is as much disagreement as some reports would indicate on how the Space Station and Industrial Space Facility proposed by NASA and Space Industries will affect each other.

"I don't think there's any problem there at all. I think the center here and Max are in perfect agreement

on how all that should be done.

"It's quite obvious that what the foreseeable future is, is a manned Space Station. With the Space Shuttle as a device for going to and from, I think it's quite easy to foresee; it remains to be done."

Before leaving JSC, Gilruth took one more long look out over JSC and the hustling community that surrounds it.

"I love this center," he said. "I spent so many happy years down here in Texas, and most of those years were spent right here."

## Shaw commands STS-28 crew

(Continued from page 1)

in Long Beach, Calif., before reporting in January 1972 to the U.S. Naval Postgraduate School. He completed flight training and received his wings in October 1973, and has logged more than 3,000 hours of flight time, including nearly 1,500 hours in the F-14A.

Adamson, an astronaut since 1984, also will be making his first shuttle flight. He served as an aerodynamics officer in Mission Control during the Operational Flight Test Phase of the Shuttle program. Following completion of the four operational test flights, he became Guidance Navigation and

Control Officer for STS missions 5 through 41-C. During non-mission periods, he also served as a research and test pilot for NASA's Aircraft Operations Division, conducting helicopter remote sensing studies in biospheric research.

In 1971, Adamson earned his wings as distinguished graduate of his flight class at the Army Aviation School, Fort Rucker, Ala. In addition to being a Senior Army Aviator and Experimental Test Pilot, Adamson is a licensed commercial pilot and a certified professional engineer. He is a qualified paratrooper and a graduate of the Army Command and General Staff College.

Brown, an astronaut since 1984, was to have been a mission specialist on STS-61N, a dedicated Department of Defense mission. Brown first received his pilot's wings at Laughlin Air Force Base, Texas, in 1974. He was then assigned to the 87th Fighter Interceptor Squadron at Sawyer Air Force Base, Michigan, where he flew both T-33 and F-106 aircraft. In 1979 Brown was transferred to the Air Force Institute of Technology at Wright-Patterson Air Force Base, Ohio, and received his master of science degree in Astronautical Engineering in 1980. STS-28 will be Brown's first space flight.

# FREEDOM to EXPLORE

## Locator device links wanderers with homes

By Beverly Green

Aunt Clara may need the constant attention of a loved one, but it may be close to impossible to watch for family members to wauntie's movements while meeting career demands, balancing budgets or changing diapers. Even in long-term care facilities, responding to the needs of hundreds of aging patients can become a real juggling act.

Help is on the way, however, in the form of the Locator System for Wandering Individuals, also known as the "Wanderer." JSC is working with four other federal agencies to create a system that can help keep track of people who need constantly monitored long-term care. The system is expected to provide greater freedom of movement for people with impaired memories and reassurance for those who try to look after them.

"The primary goals of this project are to ensure an affordable device that would be easy to use in homes or institutions," said Shayla Davidson, technical manager for the project.

"Although similar systems such as burglar alarms are available for the home and institutional use, most are restricted to indoor use

and are expensive," she added. "Beyond essential human factor issues such as the need for a lightweight device and efficiency, the Wanderer device will be designed to allow the elderly person freedom to explore their environment. Developers are designing for both indoor and outdoor settings."

JSC is managing the wanderer project for the Office of Commercial Programs at Headquarters and providing the technical expertise to develop the locator system. Davidson is coordinating the efforts of JSC's Technology Utilization Office and Tracking and Communications Division with those of Cortex Electronics, a private company responsible for developing the system's equipment, and the National Institutes of Health, Administration on Aging, Veterans Administration and National Institute for Disability and Rehabilitation Research.

The Technology and Utilization Office several years ago began adapting aerospace technology to help solve problems of older people with impaired memory. Specialists in JSC's Electromagnetics System Branch have put together a Wanderer prototype from pieces of communications technology designed for

aerospace.

"This Wanderer device has a multitude of benefits and we expect to have the model ready for outdoor tests in a month or so," said Dickey Arndt, Chief of Electromagnetics System Division. "We've tinkered with several ideas, however this is the first time we've developed a model using a Sonic Loran system, which uses timed waves for tracking," said Jerry Suddath, originator of the ultrasonic concept for this application.

The prototype Wanderer tracking system is based upon the navigational tracking system LORAN (LONG RANGE Navigation) which was developed for the location of naval vessels. The time delay between two signals is used to calculate the distance of an object, he explained.

The prototype's basic components consist of a transceiver, a transmitter and a central control unit. The transceiver is an audio receiver worn by the person being monitored. The transmitter is a system of loudspeakers that reproduce high-frequency sounds. The control unit is made up of a personal computer, an interface controller and power amplifiers.

Here is how the prototype Wanderer works: from a base

station, the transmitter emits an ultrasonic signal that is received by the transceiver. The transceiver then transmits a response to the base station at a radio frequency. The base station computer then performs the calculations necessary to determine the transceiver's location and displays its position on the screen.

"Control units would be able to show where patients are located in institutions or an overseer could key in a code and locate a particular person," Suddath explained.

The initial design for the Wanderer transceiver is a quarter-sized device, but other devices may be designed.

"The final design of the device would be worn as a bracelet or anklet," Davidson said. Children and mentally handicapped adults might also benefit from Wanderer technology, she added.

For outdoor use, sonic sources would be placed on the perimeter of a facility's grounds. The loudspeakers, called tweeters, would regularly send pulses to the Wanderer's control unit. The pulses are used as a measurement of the Wanderer's location relayed to a control station.

Charles Bautsch of Lockheed and Keith Gerhards, a summer

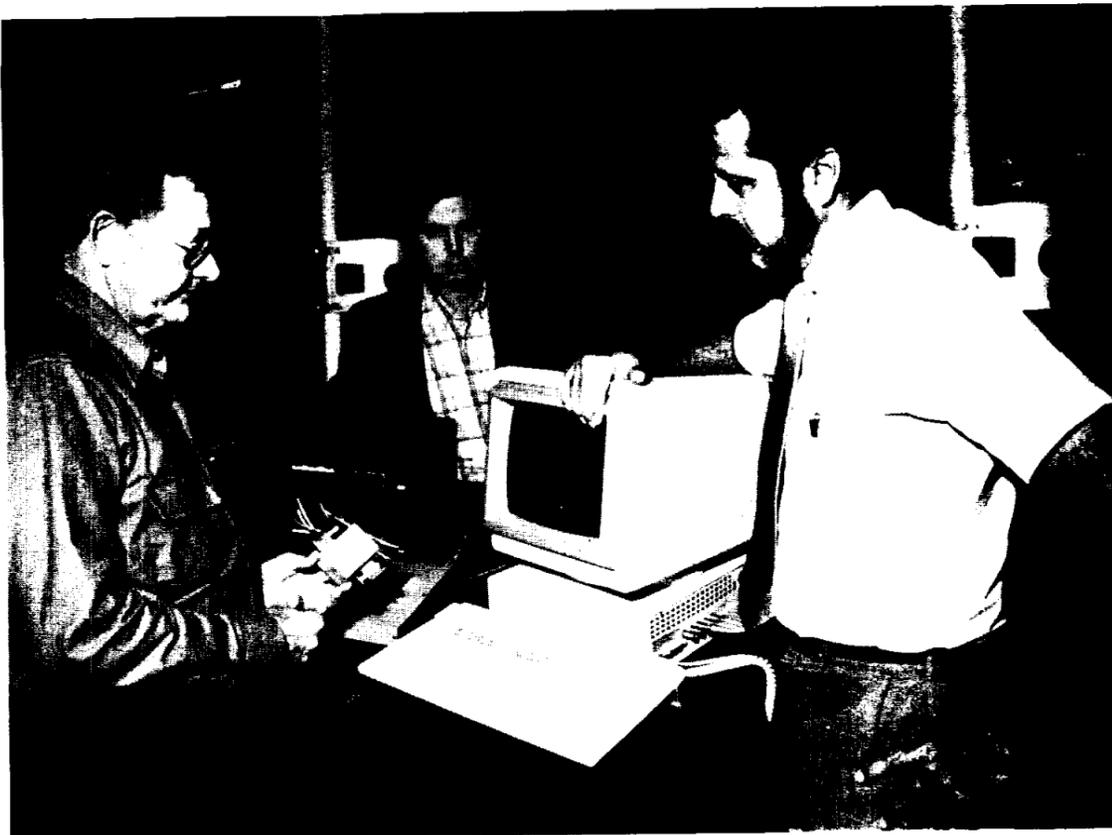
1987 intern from Texas Tech, helped design components of the system.

The Technology Utilization Office has provided administrative support for the project and was responsible for coordinating selection of a commercial partner.

"The Wanderer device could certainly serve as a model project because it has been well planned. Close to a dozen companies competed for a slot to co-fund this project," said Dean Glenn, technology utilization officer.

Recent studies indicate that the fastest growing segment of our population is 75 or older. Twenty-five percent of people more than 65 years old will actually go into nursing institutions, while 70 percent of this age group own their own homes. People in homes will be a major target, said Glenn.

Developers look forward to the time when a Wanderer device can be picked up at a local store for \$200 to \$300. Thoughtful relatives could offer Aunt Clara or Uncle Bob one of the best birthday presents by giving a Wanderer system that could offer a greater sense of freedom and security against harm.



JSC developers of the "wanderer" prototype discuss the various components required to provide a lightweight, efficient locator system. Left to right are Jerry Suddath, Charles Bautsch and Dickey Arndt.

JSC Photo

## Our job is to solve the problems

By Eugene F. Kranz

Reprinted from MOD Focus

Recent troubles on the SRB (Solid Rocket Booster) DM-9 (Development Motor-9) test have been widely reported and with a large amount of speculation. Less attention has been given to the facts that the SRB joint fixes have tested well, the Orbiter processing is on track, and that many of the key deliveries for return to flight have occurred.

The SRB problem is one where the focus of all NASA and contractor resources can be quickly brought into the problem. Extensive studies of prime and alternate designs were accomplished prior to selecting the DM-9 configuration. The failed elements are available for assessment. The problem is focused. . . alternatives are available. This problem will be resolved and we will be quickly on track.

The media reports to the best of their ability, they speculate, they dwell on the negatives. When problems occur, however, the real issue is who do we trust. . . it should be ourselves. . . the Program managers, designers, operators and maintainers.

Every program has its startup problems. . . we can take counsel of our fears. . . in which case we will never progress. . . or we can take the initiative and make things happen. Every U.S. space program has had major difficulties. . . each has

### COMMENTARY

had its share of setbacks. . . but each achieved its objectives and pushed the space frontier one step further. Space is not for the timid, it is not for those who are unwilling to risk. Space is for those people who "strive to do the deeds and know the great enthusiasms, who are willing to spend themselves in a worthy cause." Many people do not understand our type of dedication and commitment. . . those people are the "cold and timid souls" who report the problems. They do not accept ownership, or the responsibility to solve them.

During the past two years we have had ample opportunity to contemplate our deficiencies. During this time, we gained strength and again renewed our commitment. . . we are more sober, we have matured, and we are ready once again to pursue our goals in space.

Against this backdrop, however, there will always be the chorus of individuals who are afraid to venture forward. . . they will continue to pick away at management, the decision process, the workers. . . "flawed" will be the principal word in their vocabulary every time a problem occurs.

We will always have problems,

even after we return to flight. . . to the "outsiders" they will be overwhelming. . . major setbacks. There is nothing easy about our job, the space systems are complex, the environment of space is hostile. The work involves thousands of individuals performing the most complicated set of tasks in the history of man.

Problems to "space professionals" represent obstacles that will be overcome. They challenge us to do our best, to innovate, to find new paths to our objective. Life would be boring without these challenges. . . we thrive on solving problems. . . that is our job.

When we think we have troubles, it is worthwhile to look back to the real problems we had in previous programs. . . problems solved by leadership, conviction, good judgment, and plain guts. I believe we have the same qualities as the leaders before us. A good example from previous programs can be found in "This New Ocean—A History of Project Mercury." Chapter 12, "Final Rehearsals," describes the startup of the orbital phase of the Mercury Program, when Robert Gilruth, Walt Williams and others solved the problems of putting the Mercury Program on track in the aftermath of the MA-1 and MA-3 (Mercury-Atlas) launch failures. They did their job. . . so can we.



JSC Photo

**"Problems to 'space professionals' represent obstacles that will be overcome. They challenge us to do our best, to innovate, to find new paths to our objective. Life would be boring without these challenges. . . we thrive on solving problems. . . that is our job."**

# Roundup Swap Shop

All Swap Shop ads must be submitted on a JSC Form 1452. The forms may be obtained from the Forms Office. Deadline for submitting ads is 5 p.m. the first Wednesday after the date of publication. Send ads to Roundup, AP3, or deliver them to the Newsroom, Bldg. 2 Annex, Room 147. No phone in ads will be taken.

## Property & Rentals

Sale/lease: Baywind I condo, 2-1.5-2, W/D, new paint, electric, \$325/mo., deposit, sale for appraised value. 333-3992.

Sale: Pearland, 3-2-2, smi-custom home, storm windows, miniblinds, drapes, landscaped, fenced, \$84,500 OBO. Mo, 280-1743 or 997-1259.

Sale/lease: Sagemont Park townhouse, 2-2.5, study, new carpet, wallpaper, miniblinds, 2 car garage w/automatic opener, \$450/mo. or \$58,000. Donna, x31206 or 481-0679.

Lease: El Lago garage apartment, 3 mi. from NASA, on lake, 2 rooms, bath, furnished, cooking equipment, separate entrance, off street parking, swimming pool, \$300/mo., utilities incl. 532-1643.

Lease: El Dorado Trace, furnished condo, BR, study, W/D, TV, appliances, linens, dishes, exercise room, jacuzzi. Faye, 488-7038 or 282-6422.

Sale: Beautiful 90 acres, rolling hills, 2 ponds, 2 hrs. west of Houston; new 3-2-3, 2,800 sq. ft.; rustic old 7 room house; lots of implements w/cattle, \$350,000. Rick, x35480.

Sale: Heritage Park, 3-2-2, new paint, custom draperies, huge living room, formal dining, FPL, fan, cathedral ceiling, fenced, \$51,900. 480-5361.

Lease: CLC, Camino South, 4-2-2, refrig., hi-effi. AC, fenced, no pets, deposit. 488-1301.

Sale: Horseshoe Lake Estates, 1 acre on small fishing lake, Trinity River, \$15,000 OBO. x33138 or 479-5594.

Lease: Camino South, 3-2-2, FPL, fenced, \$500/mo. 488-7360.

Sale: 13.5 acres, gently rolling wooded east TX land, fronts county blacktop, near Tyler and Henderson, assumable low cost TX Vet loan. McLeish, 480-7445.

Sale: 4-2-2 brick on 5 acres, 2,300 sq. ft. living area, central A/H, satellite, 7 yrs. old. Bedias, Tx., 27 mi. west of Huntsville, \$70,000. 339-1197 or (409) 395-4731.

Sale: Seascape/Seabrook, 3-2-2 brick, new carpet, oven, vinyl siding, fenced, access to boat dock, tennis courts, \$51,000 OBO. Susan, 280-8006.

Sale: Mobile home, 14' X 70', 3-1.5, miniblinds, appliances, skirted, ex. cond., appraised \$12,500, sell, \$7,500. Michael, 280-7344 or 485-5339.

Lease: Lake Livingston waterfront house, 3-2, furnished, pier, ex. fishing, skiing, swimming, weekend, weekly rates. 482-1582.

Lease: CL Shores, 2-1, study, carport, W/D conn., refrig., fans, deck, trees, boat launch, 15 min. from NASA, \$425. Bill, 538-1849.

Lease: CL Shores, 2-1-1, carport, W/D conn., refrig., deck, house on stilts, totally remodeled, 15 min. from NASA, \$495. Bill, 538-1849.

Lease: Nassau Bay, 3 BR, both formal, den, large family room, FPL, walk to NASA, \$300 deposit, \$600/mo. Duke, 488-4493.

Lease: CLC University Green, executive townhouse, 3-2.5-2, recently decorated, both formal, den, FPL, patio, deck, available March 1, 1988, \$795/mo. Herman Mobley, x30955 or 488-1259.

Sale: CLC, 3-2-2, broker-owner, new vinyl flooring, stain-master carpet, FPL, fans, remodeled kitchen, microwave, custom cabinets, screened patio, built-in gas grill, located on park, pool, tennis, near Whitcomb Elementary, \$68,000. x30020 or 488-5390.

Lease: 35' motorhome. D. Long, 337-4051.

Sale/lease: El Dorado Trace, 1BR, 1 study, downstairs, ex. cond., pool, tennis, whirlpool, near I-45, NASA, no pets, \$350/mo., deposit or \$32,000. 480-1492.

Lease: Galveston beach house, Pirates Beach, 3-2, FPL, W/D, all appliances, \$100/nightly. 488-0667.

Lease: West Galveston beach house, 3-2, central A/H, daily/weekly rates. Ed Shumilak, x37686 or (409) 737-3520.

Lease: Friendswood, Forest Bend, 3-2-2, new paint, sun screened windows, patio, fenced, \$450/mo. 482-6609.

Sale: 4 Crystal Beach lots on Bolivar, one or more, each 50' x 100'. 921-7212.

## Cars & Trucks

'79 Ford van, brown, needs work, \$700. Julia, 480-8190 or 482-2569.

'77 Ford F150 4x4 LWB, 351 V8, 4 spd. man., 2 spd. transfer case, PS, PB, AC, aux. fuel tank, cab high bed cover, 93K mi. Randy, 326-1775.

'82 Datsun 210, AC, auto., 4 dr., ex. cond., \$2,200. 331-9709.

'85 Buick Sommeret, limited edition, blue, auto. 2.5L, all power, AM/FM/tape, 1 owner, \$5,900. Alan, x31497 or 532-2038.

'85 Toyota Corolla, 5 dr., topaz, 5 spd., 24K mi., PS/PB, AM/FM/tape, AC, cruise, RW defog/wiper, 1 owner, \$6,955.

Alan, x31497 or 532-2038.

'85 Honda Prelude, mint cond., \$10,500. Leon, x38514 or 337-5381.

'83 VW Jetta, 2 dr., sun roof, trailer hitch, AC, AM/FM/tape, 60K mi., \$3,400 OBO. Scott, x37532 or 660-7160.

'87 Volvo 240 DL, gold metallic, brown interior, 5 spd., AM/FM/tape, 4 speakers, tinted windows, PL, ex. cond., \$13,900. David, x31397 or 338-2763.

'80 Thunderbird, V8, 58K mi., loaded, ex. cond., \$2,200. 488-0500.

'85 Merkur XR4-TI, 36K mi., ex. cond., \$12,000. 532-2374.

'85 Plymouth Turismo, PB, PS, AC, stereo, ex. cond., \$4,200. Cathy, x39335 or 554-4798.

'86 Cavalier, 4 dr., dk. red, auto., AC, low miles, \$7,900. Sandi, x30086.

'85 Mustang coupe, 289c.i. V8, auto., good cond., \$2,500. 585-3404.

'84 Toyota Pickup SR5, AC, AM/FM/tape, 41K mi., ex. cond., \$4,395. Benny Sprague, x38955 or 946-0224.

'77 Buick LeSabre, good body, engine, tires, \$600 OBO. Joe Haley, 282-3991.

'81 Firebird, auto. trans., PS, AC, rebuilt engine, 2,450. John Kilbourn, x38127 or 482-7879.

'85 Camaro Z-28, 305 c.i., auto., cruise, T-top, AC, PS, PB, AM/FM/tape, extras, ex. cond. Rainey, x39650 or 358-6612.

'85 Nissan Maxima, two tone, silver, sunroof, leather seats, digital clocks, display, trip computer, AM/FM, extras, \$10,000. Cindy, 282-3171 or 538-1878.

'85 Mercury Cougar, blue, all power, 55K mi., \$6,500 OBO. Linda, x35969 or 332-2469.

'81 VW Rabbit diesel LS, 4 dr., AC, AM/FM, some body damage, driveable, \$1,000. x36213 or 488-7137.

'76 Ford Maverick, 2 dr., 250 c.i. engine, 90K mi., PS, PB, auto, AM/FM/tape, good mechanical cond., \$795. John, x34480.

'75 Toyota land cruiser, 4 X 4 recently rebuilt, new paint, over \$5,600 invested, sell for \$4,250. David, 554-2992.

## Cycles

'80 Suzuki 850, needs minor repair, BO. Clint, x39377 or 488-8919.

'84 Suzuki 125, 4-wheeler, \$650. Robert, 482-7835.

'85 Honda 700 Sabre, black/grey, matching Hondaline fairing, cruise control, cover, 12K mi., \$2,200. 480-4434.

'81 Yamaha XJ750, shaft drive, 11,700 mi., ex. cond., \$1,300 firm. Richard, 486-7526.

'87 Kawasaki Ninja 750 R, German rear seats, 4,500 mi., black, \$3,895. David, 554-2992.

Raleigh Team USA 27" race ready, aerobike levers, quick release wheels, new tires, \$175. Brian, 486-9391.

'85 Suzuki GS 700E, red/white, ex. cond., 25,000 mi., \$1,995. John, x36484 or 486-1186.

## Boats & Planes

'84 32' Chris-Craft Commander, (2) 260 Mercruiser I/B, 18 hrs. on engine, sleeps 4, bathroom w/shower, refrig., ex. cond. 339-1197 or (409) 395-4731.

'81 16' Wellcraft, I/O 120 hp Mercruiser, fully equipped, ski and Coast Guard equipment, SS prop, spare tire for trailer, ex. cond., garage kept, \$6,500 OBO. Mo, 280-1743 or 997-1259.

Sunfish sailboat, filly trailer, green and white, \$500. 332-3287.

18' Catamaran AMF TRAC sailboat, trailer, extras. ex. cond., \$3,400. 333-3056.

Cherokee 180 '66, 2,500 TT, 600 SMOH, recently painted, ex. cond., \$14,500 or trade. 482-8928.

Warrior II 78, 1,550 TT, King IFR, AC, \$24,500 or trade for Cessna 150 or run-out Hawk. 482-8928.

Rotec Rally 2B ultralight, was \$5,500, sell \$3,500. Peterson, 282-3497.

Lease your airplane to Bay Area Aero Club, based at Houston Gulf, incorporated, well organized, operating more than 10 yrs., 200 members, looking for trainers, IER cross-country planes. Linda, x32745 or 480-3187.

## Audiovisual & Computer

HP digital cassette drive for HP-41C, HP-IL Interface module, ex. cond., \$350 OBO. Carlos, x38879 or 554-7727.

Epson dot-matrix printer, 8 1/2 carriage, prints graphics and correspondence quality text, ex. cond., \$125. Jean, x36360 or 326-3019.

NEC multispeed portable computer, IBM compatible, (2) 760 drives, super-twist screen, 640K RAM, NEC case, disks (3.5"), \$1,250. Mike, x34378 or 486-4983.

MacIntosh plus 800K, double sided internal disc drive, 1 mg., internal memory, imagewriter printer, assorted software programs, \$1,950 OBO. Das, x33235 or 488-5532.

IBM PC software, Multiplan, \$45, First Choice version 1, \$45; Commodore 64 joy stick, \$15. 681-4126.

Apple scribe thermo 4-color printer, S-10 Blazer or Bronco custom cover, \$35. x36462 or 996-1410.

T199/4A computer, 15 cartridge programs, extras, \$150. x30913 or 996-0912.

## Household

L-shaped sofa, 2 pieces, matching recliner, tan, ex. cond. Kari, BO. x35111 or 458-8919.

Super single-sized waterbed, includes bookcase, headboard, drawers, liner, pad, heater, linens, \$75. Suzanne, 280-2285 or 554-4285.

Queen-sized waterbed, 50% motionless mattress, heater, stand-up liner, padded rails, headboard, mirror, shelves, chemicals, \$225. 333-6686.

26" console color TV, \$100; recliner, \$50. 480-0287.

Pair of beautiful old carved throne chairs, new upholstery, \$500; antique 7 1/2" tall grandfather's clock, Westminster chimes, \$225; antique French BR set, antique ceiling chandelier, \$2,500. 488-5564.

Pair of straight chairs, cushions, \$20; handbuilt microwave, TV or printer stand, 2 shelves, heavy duty, \$22.50; new small camping stove, \$25. 488-5564.

Large sleeper sofa, beige/brown plaid, wood accents, \$75. Chris, x32606 or 333-3839.

8' fully upholstered stain resistant sofa, 1.5 yrs. old, ex. cond., BO. John, 996-9223 or 282-3117.

2 piece sectional sofa, dark beige, \$200. 487-1883.

FPL screen, pull chain, log bars, standard, \$35; Kaye, x37937 or 482-1317.

Trundle bed, mattresses, good cond. Rudy, x33836 or 946-7028.

Small Magnavox receiver, AM/FM/tape, Fisher turntable, good cond., \$50. Brian, 480-1841.

Furniture, china, crystal. Pryor, 326-3095.

White-Westinghouse refrigerator, 19 cu. ft., ice maker, reversible doors, harvest gold, \$175. Laurie, 480-8190 or 538-1667.

Single bed, box spring, mattress, frame, ex. cond., \$90; China buffet glass shelves, \$85; rowing machine, \$60; coffee table, teak wood and marble, \$50; patio table, 4 wood benches, \$40. Lee, x30913.

Kenmore 19 cu. ft. frostfree freezer, ex. cond., \$400. 331-0133.

Sofa, 7' button-tufted, gold, velvet, \$400; pecan bedroom suite, full size mattress, box springs, nightstand, armoire, triple dresser, 2 mirrors, ex. cond., \$850. 331-0133.

Dining room suite, table, 6 chairs, china cabinet, server, ex. cond., \$1,250. Verda, 326-4456.

Navy blue print sleeper sofa, matching chair, \$250 OBO. Gina, x33750.

## Wanted

Want roommate to share 4 BR house in Timber Cove, Lakeside, W/D, extras, \$300/mo., 1/4 utilities. 532-1223.

Need bookcase headboard for twin bed, night stand, 5-drawer dresser, for boy's room. Fred, 488-8111.

Need to hire photographer that may be going to NYC, want photos of Memorial Park dedicated to John Lennon, \$60 for photos. Harold, x38497 or 488-1044.

Want small galvanized boat trailer w/1,500 lb. capacity minimum, needs good tires. Johnny, 554-6628.

Want roommate to share 3-2-2 in CLC, non-smoker only, \$300, 1/2 utilities, 4 min. from JSC. 488-8029.

Want to use 6-month registered Cocker Spaniel as a stud, looking for registered blonde-buff weighing approx. 20-25 lbs. Cheryl, x33238 or 470-8779.

Want to buy electric trains. Don, x37832 or 996-1425.

## Musical Instruments

Baldwin upright piano, walnut finish, ex. cond., \$1,000. Steven, x38126 or 488-2094.

Spencer flute, closed hole, C concert, case, 1 yr. old, ex. cond., \$185.

Artley closed hole flute, \$100 OBO. Sharon, x38451 or 996-1496.

Kimball artist console, ex. cond., leather bench, piano lamp included. Marcia, x30195 or 326-4320.

Lowery C-500 electronic organ, \$2,000. D. Long, 337-4051.

'86 Jonas Chickering piano, ex. cond., 5 support post full to top, solid cast iron, solid copper base strings, spruce sound board, \$1,595. 485-9076.

Yamaha SK20 symphonic ensemble synthesizer, 61 keys, 7-note-polyphonic

organ, string, poly synthesizer sections, vibrato/tremele, ensemble effects, ex. cond., \$400. Richard, x31620 or 458-2224.

## Pets & Livestock

Gold male kitten, 6 months, free to good home. Joan, x34618 or 486-1058. Lhasa apso, male, 10 mo., AKC registered, \$150. Lee, x30913 or 996-0912.

Australian cattle dog, Queensland blue heeler, 6 mo. old, female, must have fenced yard. 474-2906.

## Personals

Retirement dinner party planned for Kenny Mansfield, Chief Simulation Systems Branch (EF3), Feb. 26. Call Debra for reservations, x31543.

Will babysit week nights/weekends in my LaMarque home in exchange for equal service from you, references please. Marla, x32608 or 935-4417.

Reward for info. and return of stolen Hofner Beates bass guitar, cherry sunburst, last traced to Space City Pawn Shop in Dickinson, great sentimental value. x38497 or 488-1044.

Time capsule needs filling, would like publications dated on or near Oct. 17, 1985, will pick up. Peterson, 282-3497.

Mattison Geer Brown, 73, retired JSC Quality Engineering Branch employee, died Dec. 17. Survivors include his wife, Beatrice, of 947 Sylvan Meadows Dr., Modesto, Calif., and daughter Marsena Buck, Modesto.

## Miscellaneous

'81 Buick Skylark shop manual, \$10. Jim, x31224.

Klipschorn loudspeakers, \$1,500 OBO. Carlos, 554-7727.

Ashton Tate's D-base for MacIntosh, new, \$350; 5-piece dinette set, glass top, \$200; Whirlpool microwave oven, new, \$200. Susan, 280-8006.

Car shop manuals for 1983 Ford LTD, \$25. Cathy, x38025.

Ski rack, fits all intermediate or large cars, \$20. 532-2082.

Sears deluxe model rowing machine, ex. cond., \$350 OBO. Max Kilbourn, x38127 or 482-7879.

Tiller, Sears 5hp, row attachment, \$200. Don, x30419 or 331-4059.

Home work-out system., DP gypac 1,500 cableweight, versatile, good looking chrome, red vinyl, permanently installed or portable, accessories, cuffs, lat bar, military press, adjustable bench, free exercise, \$150. 282-4971 or 334-1874.

Car speakers, pair pioneer TS-X4; pair pioneer TS-X20, \$80; car radio, stereo, digital AM/FM, clock, 5 pre-set stations, 5 band equalizer, auto reverse. Tom, x35488 or 482-9172.

Houston Livestock 50th anniversary poster, numbered, framed, \$95. Dorothy, 482-1505.

Yonex R-7 racket, \$60; table lamp, \$25; SM wood drafting table, new top, \$75; Kenmore sewing machine, extras, \$200. Sandi, x30086.

Mannlicher 30.06 rifle, mauser action,

variable scope, extras. Margaret, x37909 or 930-1509.

Collection of American stamps, album of the first day covers, the Royal Wedding, 25th Anniversary of the Queen's coronation—the Queens Silver Jubilee, German stamp collection. Pryor, 326-3095.

(4) Tires, wheels, 5 lugs, 75R15, \$100; '68' Chevy 400 turbo transmission, \$150. 948-0241.

Motorcycle helmet, full face, black/grey, x-large, \$25. 480-4434.

Pistol, 9 mm, automatic, Manurhin, French mtg., ex. cond., \$275. 482-1582.

Seasoned oak for sale; free wood, cut down 2 tree trunks, height of roof line. Terry, x30550 or 333-2985.

Baby stroller, \$25; hydraulic car jack, 2 ton, \$25; gas grill, \$125; Pioneer CT5151, cassette deck, \$30. Tim, x37066 or 280-9774.

Bumper pool table, \$35; Air Hockey table, \$20. Wayne, x33258 or 488-4394.

Broadcast spreader, ex. cond., \$15; maple trim Early American sofa, \$150; catcher's chest protector, \$12. 482-8827.

Early American sofa, pine trim, \$150; large doghouse w/floor, \$15. 482-8827.

Martin gas space heater, 30,000 BTU, seldom used, auto. blower, was \$400, sell \$200. 331-6413.

Sears metal work bench, drawers, \$85; metal file cabinet, \$75; Lawnboy mover, \$300; Stearns life preserver, \$15; Coleman stove, \$25. Coleman Lantern, \$15. 681-4126.

New Goodyear steel-belted radial BR 78 x 14, mounted/balanced, \$60 OBO; 3 new car air filters, Ford, \$6; ceiling fan light kit, \$3. Jansen, 486-8528.

Sanyo car stereo AM/FM/tape w/ Dolby, high-power amp., 2 80W 6 x 9 speakers, \$155 OBO. Jansen, 486-8528.

Delta airline tickets from Houston IAH to Atlanta, from Atlanta to Augusta, Ga. for Tues. Feb. 23, \$50 OBO. Barbara, x38257 or 538-3675.

Desk, 30" x 48", 30" tall, metal, good cond., \$40. 333-2335.

Gas grill, butane tank, smoker; Morse AM/FM stereo w/phone, cassette, 8 track player, recorder, pecan case; queen bed, steel frame, pecan headboard, ex. cond. x36462 or 996-1410.

Uniden RD55 radar detector, new, \$89. x36213 or 488-7137.